

ABSTRACT

The invention provides a system and method utilizing, among other things, fluorescence spectroscopy in the ultraviolet portion of the electromagnetic spectrum to determine chemical species and concentrations. The basic measuring system includes optics, a spectrograph, a detector, and an energy source ("head" components), along with a computer and control electronics and power source capable of generating and detecting unique fluorescence signatures for individual and unique mixtures of chemical substances including, for example, prescribed and/or compounded medications, alcohol products, food types, synthetic drugs, narcotics, perfumes, liquids, and the like.